

WHAT IS CLAIMED IS:

1. A hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in a polymorphic form characterized by an X-ray powder diffraction pattern having diffraction angles of 6.76, 8.12, 10.21, 12.11, 12.88, 13.77, 14.65, 15.01, 15.23, 16.09, 16.36, 16.95, 17.28, 17.65, 18.31, 19.06, 19.66, 20.84, 21.47, 22.21, 23.07, 24.05, 24.32, 25.19, 25.58, 26.00, 26.96, 28.22 and 28.84.
2. The polymorphic form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one according to Claim 1 characterized by an X-ray powder diffraction pattern having diffraction angles of 6.76, 8.12, 10.21, 12.11, 12.88, 13.77, 14.65, 15.01, 15.23, 16.09, 16.36, 16.95, 17.28, 17.65, 18.31, 19.06, 19.66, 20.84, 21.47, 22.21, 23.07, 24.05, 24.32, 25.19, 25.58, 26.00, 26.96, 28.22 and 28.84 and a melting endotherm of 284.90°C at a rate of 10°C per minute.
3. A hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in crystalline form characterized by an X-ray powder diffraction pattern having diffraction angles of 5.19, 9.54, 10.32, 12.99, 14.79, 15.14, 16.50, 17.10, 17.47, 18.28, 19.12, 19.50, 20.70, 21.00, 21.56, 22.27, 23.24, 24.42, 25.35, 26.06, 26.99, 28.28 and 31.87.
4. The crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one according to Claim 3 characterized by an X-ray powder diffraction pattern having diffraction angles of 5.19, 9.54, 10.32, 12.99, 14.79, 15.14, 16.50, 17.10, 17.47, 18.28, 19.12, 19.50, 20.70, 21.00, 21.56, 22.27, 23.24, 24.42, 25.35, 26.06, 26.99, 28.28 and 31.87 and a melting endotherm of 273.8°C at a rate of 10°C per minute.
5. A hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in a polymorphic form characterized by an X-ray powder diffraction pattern having diffraction angles of 7.60, 9.350, 11.22, 15.12, 16.01, 16.86, 18.85, 19.46, 20.10, 21.73, 23.07, 23.70, 24.35 and 25.99.

6. The polymorphic form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one according to Claim 5 characterized by an X-ray powder diffraction pattern having diffraction angles of 7.60, 9.350, 11.22, 15.12, 16.01, 16.86, 18.85, 19.46, 20.10, 21.73, 23.07, 23.70, 24.35 and 25.99 and a melting endotherm of 292.6° C at a rate of 10°C per minute.

7. A method of preparing a hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in a crystalline form characterized by an X-ray powder diffraction pattern having diffraction angles of 6.76, 8.09, 9.95, 12.07, 12.85, 13.73, 14.36, 14.85, 15.21, 16.06, 16.34, 16.78, 17.25, 18.29, 18.88, 19.13, 19.72, 20.34, 20.74, 21.55, 22.35, 24.01, 24.24, 25.19, 25.54, 26.86, 28.77 and 30.23; said method comprising the step of treating the free base of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in DMSO with aqueous hydrochloric acid.

8. A method of isolating a hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in a crystalline form characterized by an X-ray powder diffraction pattern having diffraction angles of 6.76, 8.09, 9.95, 12.07, 12.85, 13.73, 14.36, 14.85, 15.21, 16.06, 16.34, 16.78, 17.25, 18.29, 18.88, 19.13, 19.72, 20.34, 20.74, 21.55, 22.35, 24.01, 24.24, 25.19, 25.54, 26.86, 28.77 and 30.23; said method comprising the steps of treating the free base of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in DMSO with aqueous hydrochloric acid and collecting the resulting solid by filtration.

9. The method according to Claim 8 that further comprises the step of drying the collected solid under anhydrous conditions.

10. The method according to Claim 8 that further comprises the step of drying the collected solid under a nitrogen purge.

11. A method of preparing a hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in a crystalline form characterized by an X-ray powder diffraction pattern having

diffraction angles of 6.76, 8.12, 10.21, 12.11, 12.88, 13.77, 14.65, 15.01, 15.23, 16.09, 16.36, 16.95, 17.28, 17.65, 18.31, 19.06, 19.66, 20.84, 21.47, 22.21, 23.07, 24.05, 24.32, 25.19, 25.58, 26.00, 26.96, 28.22 and 28.84; said method comprising the step of treating the free base of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in THF with aqueous hydrochloric acid.

12. The method according to Claim 11 that further comprises the step of drying the collected solid under anhydrous conditions.
13. The method according to Claim 11 that further comprises the step of drying the collected solid under a nitrogen purge.
14. A method of preparing a hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in a crystalline form characterized by an X-ray powder diffraction pattern having diffraction angles of 5.19, 9.54, 10.32, 12.99, 14.79, 15.14, 16.50, 17.10, 17.47, 18.28, 19.12, 19.50, 20.70, 21.00, 21.56, 22.27, 23.24, 24.42, 25.35, 26.06, 26.99, 28.28 and 31.87;
15. said method comprising the step of recrystallizing a crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one characterized by an X-ray powder diffraction pattern having diffraction angles of 6.76, 8.09, 9.95, 12.07, 12.85, 13.73, 14.36, 14.85, 15.21, 16.06, 16.34, 16.78, 17.25, 18.29, 18.88, 19.13, 19.72, 20.34, 20.74, 21.55, 22.35, 24.01, 24.24, 25.19, 25.54, 26.86, 28.77 and 30.23 from a 1:1 acetonitrile/water mixture.
15. A method of preparing a hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in a crystalline form characterized by an X-ray powder diffraction pattern having diffraction angles of 5.19, 9.54, 10.32, 12.99, 14.79, 15.14, 16.50, 17.10, 17.47, 18.28, 19.12, 19.50, 20.70, 21.00, 21.56, 22.27, 23.24, 24.42, 25.35, 26.06, 26.99, 28.28 and 31.87;
15. said method comprising the step of recrystallizing a crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-

1H-quinolin-2-one characterized by an X-ray powder diffraction pattern having diffraction angles of 6.76, 8.09, 9.95, 12.07, 12.85, 13.73, 14.36, 14.85, 15.21, 16.06, 16.34, 16.78, 17.25, 18.29, 18.88, 19.13, 19.72, 20.34, 20.74, 21.55, 22.35, 24.01, 24.24, 25.19, 25.54, 26.86, 28.77 and 30.23 from a 1:1 acetone/water mixture.

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16. A method of preparing a hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in a crystalline form characterized by an X-ray powder diffraction pattern having diffraction angles of 7.60, 9.350, 11.22, 15.12, 16.01, 16.86, 18.85, 19.46, 20.10,  
10 21.73, 23.07, 23.70, 24.35, 25.99; said method comprising the step of recrystallizing a crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one characterized by an X-ray powder diffraction pattern having diffraction angles of 6.76, 8.09, 9.95, 12.07, 12.85, 13.73, 14.36, 14.85, 15.21, 16.06, 16.34, 16.78, 17.25, 18.29, 18.88, 19.13, 19.72, 20.34,  
15 20.74, 21.55, 22.35, 24.01, 24.24, 25.19, 25.54, 26.86, 28.77 and 30.23 from acetic acid.

17. A pharmaceutical composition that is comprised of a polymorphous form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 1 and a  
20 pharmaceutically acceptable carrier.

18. A pharmaceutical composition that is comprised of a crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3 and a pharmaceutically  
25 acceptable carrier.

19. A pharmaceutical composition that is comprised of a crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 5 and a pharmaceutically  
30 acceptable carrier.

20. A method of treating or preventing cancer in a mammal in need of such treatment which is comprised of administering to said mammal a  
35 therapeutically effective amount of the polymorphous form of the hydrochloride salt

of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 1.

21. A method of treating or preventing cancer in a mammal in need  
5 of such treatment which is comprised of administering to said mammal a therapeutically effective amount of the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3.

10 22. A method of treating or preventing cancer in a mammal in need of such treatment which is comprised of administering to said mammal a therapeutically effective amount of the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 5.

15 23. A method of treating cancer or preventing cancer in accordance with Claim 21 wherein the cancer is selected from cancers of the brain, genitourinary tract, lymphatic system, stomach, larynx and lung.

20 24. A method of treating or preventing cancer in accordance with Claim 23 wherein the cancer is selected from histiocytic lymphoma, lung adenocarcinoma, small cell lung cancers, pancreatic cancer, glioblastomas and breast carcinoma.

25 25. A method of treating or preventing a disease in which angiogenesis is implicated, which is comprised of administering to a mammal in need of such treatment a therapeutically effective amount of the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3.

30 26. A method in accordance with Claim 25 wherein the disease is an ocular disease.

35 27. A method of treating or preventing retinal vascularization which is comprised of administering to a mammal in need of such treatment a

therapeutically effective amount of the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3.

5                   28.     A method of treating or preventing diabetic retinopathy which is comprised of administering to a mammal in need of such treatment a therapeutically effective amount of the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3.

10                   29.     A method of treating or preventing age-related macular degeneration which is comprised of administering to a mammal in need of such treatment a therapeutically effective amount of the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3.

15                   30.     A method of treating or preventing inflammatory diseases which comprises administering to a mammal in need of such treatment a therapeutically effective amount of the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3.

20                   31.     A method according to Claim 30 wherein the inflammatory disease is selected from rheumatoid arthritis, psoriasis, contact dermatitis and delayed hypersensitivity reactions.

25                   32.     A method of treating or preventing a tyrosine kinase-dependent disease or condition which comprises administering a therapeutically effective amount of the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3.

30                   33.     A pharmaceutical composition made by combining the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3 and a pharmaceutically acceptable carrier.

34. A process for making a pharmaceutical composition which comprises combining the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3 with a pharmaceutically acceptable carrier.

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35. A method of treating or preventing bone associated pathologies selected from osteosarcoma, osteoarthritis, and rickets which comprises administering a therapeutically effective amount of the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3.

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36. The composition of Claim 18 further comprising a second compound selected from:

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- 1) an estrogen receptor modulator,
- 2) an androgen receptor modulator,
- 3) retinoid receptor modulator,
- 4) a cytotoxic agent,
- 5) an antiproliferative agent,
- 6) a prenyl-protein transferase inhibitor,
- 7) an HMG-CoA reductase inhibitor,
- 8) an HIV protease inhibitor,
- 9) a reverse transcriptase inhibitor, and
- 10) another angiogenesis inhibitor.

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37. The composition of Claim 36, wherein the second compound is another angiogenesis inhibitor selected from the group consisting of a tyrosine kinase inhibitor, an inhibitor of epidermal-derived growth factor, an inhibitor of fibroblast-derived growth factor, an inhibitor of platelet derived growth factor, an MMP inhibitor, an integrin blocker, interferon- $\alpha$ , interleukin-12, pentosan polysulfate, a cyclooxygenase inhibitor, carboxyamidotriazole, combretastatin A-4, squalamine, 6-O-chloroacetyl-carbonyl)-fumagillol, thalidomide, angiostatin, troponin-1, and an antibody to VEGF.

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38. The composition of Claim 36, wherein the second compound is an estrogen receptor modulator selected from tamoxifen and raloxifene.

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39. A method of treating cancer which comprises administering a therapeutically effective amount of the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3 in combination with radiation therapy.

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40. A method of treating or preventing cancer which comprises administering a therapeutically effective amount of the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3 in combination with a compound

10 selected from:

- 1) an estrogen receptor modulator,
- 2) an androgen receptor modulator,
- 3) retinoid receptor modulator,
- 4) a cytotoxic agent,
- 15 5) an antiproliferative agent,
- 6) a prenyl-protein transferase inhibitor,
- 7) an HMG-CoA reductase inhibitor,
- 8) an HIV protease inhibitor,
- 9) a reverse transcriptase inhibitor, and
- 20 10) another angiogenesis inhibitor.

41. A method of treating cancer which comprises administering a therapeutically effective amount of the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3 in combination with radiation therapy and a compound selected from:

- 1) an estrogen receptor modulator,
- 2) an androgen receptor modulator,
- 3) retinoid receptor modulator,
- 30 4) a cytotoxic agent,
- 5) an antiproliferative agent,
- 6) a prenyl-protein transferase inhibitor,
- 7) an HMG-CoA reductase inhibitor,
- 8) an HIV protease inhibitor,
- 35 9) a reverse transcriptase inhibitor, and



10) another angiogenesis inhibitor.

42. A method of treating or preventing cancer which comprises administering a therapeutically effective amount of the crystalline form of the  
5 hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-  
1H-quinolin-2-one in accordance with Claim 3 and paclitaxel or trastuzumab.

43. A method of treating or preventing cancer which comprises administering a therapeutically effective amount of the crystalline form of the  
10 hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-  
1H-quinolin-2-one in accordance with Claim 3 and a GPIIb/IIIa antagonist.

44. The method of Claim 43 wherein the GPIIb/IIIa antagonist is  
15 tirofiban.

45. A method of reducing or preventing tissue damage following a cerebral ischemic event which comprises administering a therapeutically effective amount of the crystalline form of the hydrochloride salt of 3-[5-(4-methanesulfonyl-piperazin-1-ylmethyl)-1H-indol-2-yl]-1H-quinolin-2-one in accordance with Claim 3.